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CLAIMS

1.   A method for shading and texturing 3-dimensional computer generated images comprising the steps of:

supplying data defining a group of surfaces representing each object in the image in turn;

for each elementary area of the display, generating a depth value for each surface of each object in dependence on the distance of that surface from an image plane;

applying shading and texture data to the surfaces;

determining whether any texture data applied to a surface is fully opaque;

storing the depth values for opaque textures of objects at elementary areas in a depth testing means;

comparing the depth of surfaces from subsequent objects with the depth values for the opaque objects at elementary areas; and

discarding the surfaces of the subsequent objects for elementary areas which already have a fully opaque surface closer to the image plane.

2.   A method according to claim 1 in which the objects in an image are first sorted from front to back such that any fully opaque objects inhibit texturing of objects behind them.

3.   A method according to claim 1 in which at least one texture includes fully opaque portions and translucent portions and wherein the objects in the image are first sorted from front to back and the fully opaque elements are used to inhibit texturing of objects behind them, and the objects are then sorted from back to front and any

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non-opaque elementary areas have texturing applied to them.

4.   A method according to any preceding claim including the set of first dividing the image with a plurality of rectangular areas and shading and texturing each rectangular area in turn.

5.   Apparatus for shading and texturing a 3-dimensional computer generated image comprising:
        means for suppling data defining a group of surfaces representing each object in the image in turn;
        means for generating a depth value for each surface of each object at each elementary area of the display in dependence on the distance of that surface from an image plane;
        means for applying shading and texture data to the surfaces;
        means for determining whether any texture data applied to a surface is fully opaque;
        means for storing the depth value for opaque textures of objects at elementary areas in a depth testing means;
        means for comparing the depth surfaces from subsequent objects with the depth values for the opaque objects at each elementary area; and
        means for discarding the surfaces of the subsequent objects for elementary areas which already have a fully opaque surface closer to the image plane.

6.   Apparatus according to claim 5 including means for sorting the objects in the image from front to back such that fully opaque objects inhibit texturing of objects behind them.

7.   Apparatus according to claim 5 in which at least one texture includes fully opaque portions and

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translucent portions and including means for first sorting
the objects in the image from front to back such that the
fully opaque elements are used to inhibit texturing of
objects behind them, and for subsequently sorting the
objects from back to front such that any non-opaque
elementary areas have texturing applied to them.

8.   Apparatus according to any of claims 5, 6 and 7
including means for first dividing the image into a
plurality of rectangular tiles.